CORPORATE OFFICE
Delhi Office
706 Ground Floor Dr. Mukherjee Nagar Near Batra Cinema Delhi – 110009
Noida Office
Basement C-32 Noida Sector-2 Uttar Pradesh 201301

Yojna IAS
yojnaias.com
योजना है तो सफलता है
website : www.yojnaias.com
Contact No. : +91 8595390705

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GLOBAL BIOFUEL ALLIANCE

THIS ARTICLE COVERS 'DAILY CURRENT AFFAIRS' AND THE TOPIC DETAILS OF "**GLOBAL BIOFUEL ALLIANCE**". THIS TOPIC IS RELEVANT IN THE "**INTERNATIONAL RELATIONS**" SECTION OF THE UPSC CSE EXAM.

Why in the News?

The Global Biofuel Alliance (GBA) established a strategic agenda during a significant gathering coinciding with the G20 discussions in Brazil. This agenda prioritizes evaluating national contexts, formulating regulatory structures, and hosting biofuel seminars.

ABOUT THE GLOBAL BIOFUEL ALLIANCE

- The Global Biofuel Alliance (GBA) represents a coalition comprising Governments, International Organizations, and Industries, dedicated to advocating for sustainable biofuels within the framework of emission reduction strategies.
- Established during the peripheral events of the 2023 G20 summit, the GBA concentrates on guaranteeing the availability and affordability of biofuels through sustainable production practices.

OBJECTIVES:

To expedite the global integration of biofuels by:

- Advocating for technological progress
- Enhancing the utilization of environmentally sound biofuels
- Implementing rigorous standards and certification procedures with the active participation of diverse stakeholders.

Dedication to Second-Generation (2G) Ethanol Production: The GBA pledges its commitment to the production of second-generation (2G) ethanol, sourced from agricultural residue, recycled cooking oil, and processed animal byproducts such as fats.

- Its objectives encompass fostering global collaboration, advancing the adoption of sustainable biofuels, and bolstering international biofuels commerce, alongside offering technical aid for domestic biofuel initiatives.

MEMBERSHIP:

- This initiative originated in India and commenced with nine founding members: **India, the US, Brazil, Argentina, Bangladesh, Italy, Mauritius, South Africa, and the United Arab Emirates**. Canada and Singapore participate as observer countries.
- Presently, the GBA boasts a membership of 24 nations. These members represent significant players in both the production and consumption of biofuels.

WHY DOES THE GLOBAL BIOFUEL ALLIANCE HOLD SIGNIFICANCE FOR INDIA?

- **Reducing Oil Import Dependency:** India, being the world's third-largest consumer of crude oil, incurs substantial costs on oil imports. The GBA presents India with an opportunity to diminish its dependence on expensive oil imports by fostering domestic biofuel production.
- **Environmental Advantages:** Biofuels offer a means to combat air pollution and mitigate carbon emissions in India, aligning with the nation's sustainability objectives.
- **Economic Prospects**: Investments in the biofuel sector, spurred by the GBA, have the potential to create employment opportunities for India's youth, thereby fostering economic growth. Increased utilization of biofuels, particularly derived from sugarcane crops, benefits farmers by providing additional income.
- **Utilizing Global Collaboration:** Through participation in the GBA, India can harness global collaboration to assimilate international best practices, access new markets, and forge strategic alliances. The alliance also opens avenues for Indian industries to export technology and equipment.
- **Enhancing Global Standing:** As a tangible outcome of India's G20 presidency, the GBA bolsters the country's global standing. It enables India to position itself as a leader in climate action and sustainability, amplifying its voice in international dialogues.
- **Facilitating Energy Transition:** The objective is to support India in shifting towards alternative fuels as part of its endeavor to attain a net-zero carbon emissions target by 2070. Presently, India's daily production of biogas and compressed biogas stands at 1151 MT. With focused endeavors in this field, projections indicate a potential increase to 1750 MT per day by 2025.

WHAT ARE BIOFUELS?

- Biofuels represent a form of sustainable energy sourced from biomass, encompassing plant matter, animal residue, and organic leftovers. They stand as an environmentally friendly substitute for fossil fuels, given their capacity for swift replenishment and typically lower environmental impact.
- Biofuels commonly refer to liquid fuels produced from organic sources like biomass and natural refuse. These fuels are often derived from materials such as sugar cane, corn, and soybeans.

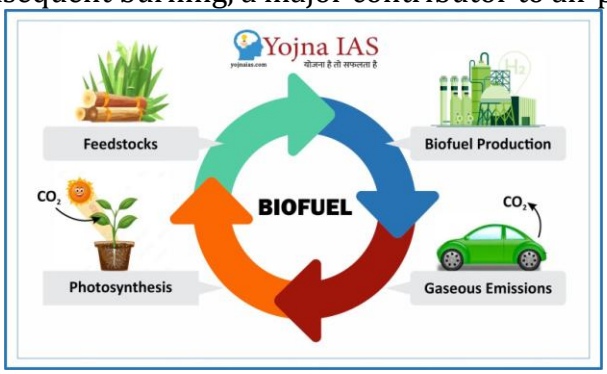
TYPES OF BIOFUELS

- **Ethanol:** Originating from sources like sugarcane and corn via fermentation, ethanol serves as a prevalent biofuel for automobiles. It stands out for its cleanliness, emitting fewer greenhouse gasses, and its compatibility for blending with other fuels to diminish carbon emissions.

- **Biodiesel:** Formulated from a blend of vegetable oils, fats, and animal oils, biodiesel is gaining traction for its cleaner combustion characteristics and absence of sulfur content.
- **Biobutanol:** While less prevalent than ethanol and biodiesel, biobutanol holds considerable promise. It is derived from algae or bacteria and boasts advantages such as high energy content, engine non-corrosiveness, and compatibility with standard gasoline engines without necessitating modifications.
- **Biogas:** Generated from the anaerobic decomposition of biomass, biogas primarily comprises methane and finds utility in agricultural environments and domestic consumption.
- **Methanol**: Resembling ethanol, methanol is utilized in motor vehicles and produced through the biomass gasification process at elevated temperatures with a catalyst.
- **Algae-based biofuels:** Algae can be cultivated on land or in aquatic environments to yield biofuels with substantial productivity. Algal fuels exhibit biodegradability and can be cultivated with minimal impact on freshwater resources.

BENEFITS OF BIOFUELS

- **Reduced Greenhouse Gas Emissions:** Biofuels emit fewer greenhouse gasses in comparison to fossil fuels. Upon combustion, biofuels release carbon dioxide recently absorbed by plants during their growth, resulting in a net zero increase in atmospheric carbon dioxide. Such as the decarbonisation of the logistic sector
- **Domestic Production:** Certain biofuels like biodiesel can be domestically manufactured from sources such as vegetable oils or animal fats. This promotes energy independence and diminishes dependence on imported fuels.
- India currently relies on **imports for 85% of its oil and 50% of its natural gas** needs. By substituting a portion of these imports with biofuels, India can bolster its energy security and reduce its import expenditures.
- India has accelerated its **ethanol blending objective, aiming to reach 20% by 2025 instead of the initially planned 2030.** This adjustment is anticipated to result in savings of Rs. 450 billion in oil imports and a reduction of 63 million tonnes of oil annually for India.
- **Enhanced Energy Security:** Biofuels bolster energy security by diversifying the energy supply. During periods of traditional energy source unavailability or unaffordability, biofuels offer a dependable alternative energy source.
- **Renewable Energy Source:** Biofuels originate from biological materials that can be replenished over time, distinguishing them from finite fossil fuels. This renewable characteristic renders biofuels a sustainable energy choice.
- **Addressing Stubble Burning:** Biogas presents a potential solution to the issue of crop stubble generation and the consequent burning, a major contributor to air pollution.



GOVERNMENT INITIATIVES TO PROMOTE BIOFUELS

- **National Policy on Biofuels**: Launched in 2018, it strives to elevate biofuel production and utilization within India. It categorizes biofuels into two main types: basic biofuels such as bioethanol and biodiesel, and advanced biofuels sourced from agricultural residues, municipal solid waste, and other discarded materials. The policy includes provisions for a viability gap funding scheme to bolster the production of advanced biofuels.
- **Ethanol Blending Programme:** Introduced in 2003, It seeks to blend ethanol with gasoline to diminish import reliance and reduce greenhouse gas emissions. The government has revised the target for achieving 20% ethanol blending in petrol from 2030 to 2025, projecting significant savings of around ₹45,000 crore in oil imports and 63 million tonnes of oil annually for India.
- **Pradhan Mantri JI-VAN (Jaiv Indhan – Vatavaran Anukool fasal awashesh Nivaran) Yojana:** Launched in 2019, It extends financial backing to integrated bioethanol projects utilizing lignocellulosic biomass and other renewable resources. It aims to foster an environment conducive to advanced biofuel production nationwide.
- **SATAT (Sustainable Alternative Towards Affordable Transportation) Initiative:** Initiated in 2018, it advocates for the production of compressed biogas (CBG) from diverse waste and biomass sources. It sets a target of establishing 5,000 CBG plants by 2023-24, generating 15 million tonnes of CBG annually and generating 75,000 employment opportunities.
- **GOBARdhan (Galvanizing Organic Bio-Agro Resources Dhan) Scheme:** Introduced in 2018, it aims to promote the conversion of agricultural waste, cattle dung, and municipal solid waste into biogas and bio-fertilizers. Its primary objectives include wealth and energy creation from waste, thereby benefiting farmers and enhancing rural sanitation.

PRELIMS BASED QUESTION

Q1. Consider the following statements about Global Biofuel Alliance:

1. It was initiated by India on the sidelines of the 2023 G20 Summit.
2. The GBA pledges its commitment to the production of second-generation (2G) ethanol.

Choose the correct answer using the codes given below:

(a). 1 Only
(b). 2 Only
(c). Both 1 and 2
(d). Neither 1 nor 2

ANSWER: C

MAINS BASED QUESTION

Q1. What are the key objectives of the National Policy on Biofuels (2018), and how does it contribute to the advancement of biofuel production and utilization in India?

VIKAS

CENTRAL DRUGS STANDARD CONTROL ORGANISATION (CDSCO)

THIS ARTICLE COVERS 'DAILY CURRENT AFFAIRS' AND THE TOPIC DETAILS OF " CENTRAL DRUGS STANDARD CONTROL ORGANISATION (CDSCO)". THIS TOPIC IS RELEVANT IN THE "SCIENCE AND TECHNOLOGY" SECTION OF THE UPSC CSE EXAM.

WHY IN THE NEWS?

Recently, the Central Drugs Standard Control Organisation (CDSCO), India's drug regulatory authority, has revoked the power previously granted to State licensing bodies to grant No Objection Certificates (NOCs) for producing unapproved, prohibited, or novel drugs for export purposes. This decision was made in response to international criticisms regarding the quality of pharmaceuticals exported from India. Consequently, the CDSCO is the sole authority issuing manufacturing licenses for drugs destined for export markets.

In an order issued by Drug Controller General India, Dr Rajeev Raghuvanshi, the CDSCO has asked the industry to submit fresh only applications for no objection certificates (NOCs) from 15 May onwards.

What is the Central Drugs Standard Control Organisation (CDSCO)?

The Central Drugs Standard Control Organization (CDSCO) is the National Regulatory Authority of India for the medical devices industry under the provisions of the Drugs and Cosmetics Act 1940. Operating under the Ministry of Health & Family Welfare, the Central Drugs Standard Control Organization (CDSCO) is overseen by India's National Regulatory Authority (NRA). The Drugs Controller General of India (DCGI) holds the leadership role, and the organisation's headquarters are in New Delhi. **The key functions include:**

- **Regulatory Approval:** CDSCO is responsible for approving new drugs, biological products, and medical devices for marketing in India. It evaluates applications submitted by pharmaceutical companies and assesses the products' safety, efficacy, and quality before granting marketing authorisation.
- **Clinical Trials Oversight:** It regulates and monitors clinical trials conducted in India to ensure compliance with ethical and regulatory standards. It evaluates trial protocols, reviews applications for clinical trial permissions, and monitors the conduct of trials to safeguard the rights, safety, and well-being of trial participants.
- **Quality Control:** It establishes and enforces quality standards for pharmaceuticals, medical devices, diagnostics, and cosmetics manufactured or imported in India. It conducts inspections of manufacturing facilities and laboratories to ensure compliance with Good Manufacturing Practices (GMP) and Good Laboratory Practices (GLP).
- **Import and Export Regulation:** It regulates the import and export of drugs, medical devices, and other healthcare products to and from India. It scrutinises import and export licenses, verifies product quality and compliance with regulatory requirements, and takes action against unauthorised or substandard imports or exports.
- **Post-Marketing Surveillance:** CDSCO monitors the safety profile of marketed drugs and medical devices through post-marketing surveillance activities. It collects and evaluates adverse

event reports, conducts inspections of adverse event reporting systems, and takes appropriate regulatory actions to mitigate risks to public health.

ABOUT THE DRUGS AND COSMETICS ACT, 1940:

The Drugs and Cosmetics Act of 1940 is an important legislation in India that regulates the import, manufacture, distribution, and sale of drugs and cosmetics in the country. The Act was enacted to ensure the safety, efficacy, and quality of pharmaceuticals and cosmetics and to protect consumers' health. The Act distinguishes drugs and cosmetics based on their use, mandates licensing for manufacture, distribution, and sale, and requires registration for certain items before they are made, imported, or sold in India.

The Act benchmarks drug and cosmetics' quality, safety, and effectiveness. It grants authority to the Central Drugs Standard Control Organization (CDSCO) and the State Drug Regulatory Authorities to uphold these benchmarks via inspections, tests, and product sampling. Additionally, the legislation oversees the management of clinical trials for experimental drugs and cosmetics. It details the process for securing approvals from regulatory bodies, mandates adherence to ethical standards during trials, and necessitates documenting and reporting any adverse incidents and results.

The Act prescribes penalties for offences such as the manufacture, sale, or distribution of spurious, adulterated, or misbranded drugs and cosmetics. Offenders may face fines, imprisonment, or cancellation of licenses, depending on the severity of the violation.

CONCLUSION:

The Central Drugs Standard Control Organization (CDSCO) protects public health by ensuring that pharmaceuticals, medical devices, and other healthcare products in India adhere to strict regulatory standards, guaranteeing they are safe, effective, and high-quality. The 1940 Drugs and Cosmetics Act, together with its related Rules, forms an extensive regulatory framework for the pharmaceutical and cosmetics sectors in India, ensuring that the public has access to healthcare products that are safe, effective, and of high quality.

MAINS PRACTICE QUESTION:

Q. How does the CDSCO balance the need for rapid drug approval, especially in emergencies like the COVID-19 pandemic, with the imperative to ensure the safety and efficacy of these drugs?

AMIT PRADHAN